Patent Application
Docket No. P14992US

REMARKS

Applicant thanks the Examiner for his report. Reconsideration and allowance of the application is respectfully requested in view of the following remarks. Claims 1, 4-9 and 11-19 are currently pending in the application.

Claim rejections – 35 U.S.C § 103(a)

Claims 1, 4-9 and 11-19 stand rejected under 35 U.S.C § 103(a) as being unpatentable over Jansen et al. (US6,243,450), hereinafter referred to as Jensen, and further in view of Rainis et al. (US6,310,873), hereinafter referred to as Rainis. Applicant respectfully traverses the rejection.

Independent claims 1, 8 and 15 all relate to a call server collecting accounting data during a first portion of an IP session for which a first billing rate applies. **The call server then waits for an accounting event before sending the collected accounting data to an Authentication, Authorization, and Accounting (AAA) server.** The call server sends the collected accounting data to the AAA server within an Accounting stop message that indicates the end of the first portion of the IP session. The call sever further sends an Accounting start message indicating the beginning of a second portion of the IP session.

Jansen and Rainis individually and collectively fail to describe the present invention. Jansen relates to a **terminal** for allowing a user to access network resources while being charged therefor.

Column 12, lines 34-67 (and following lines of the same paragraph of column 13) of Jansen read as follows:

*FIG. 14 shows **the sub fields in the service rate field** 237 (shown in FIG. 9). If stored as a separate table the service rate field contains a service identifier 237a so the rate field can be matched to the service record. Service rate field 237 has a number of sub-fields: the grace period field 237b gives the amount of time the user is allowed to use the service before they begin to be charged; the round up threshold field 237c provides*

the number of seconds above which a user is charged for a full minute of service (for example, if it is set to 31, then the user is charged for 1 minute once 31 seconds have expired); the rate per minute field 237d provides a charge per minute for the service; the currency code field 237e provides an indication of the local unit of currency; the initial fee field 237f provides the up-front cost of using the pay-per-use service which typically covers transaction fees, administration fees etc.; the free seconds field 237g indicates the number of seconds of service included in the initial fee (for example if the initial fee was $1.50 and the free seconds as 180 the user would be charged $1.50 and no additional fees would be charged until 3 minutes of use had elapsed); the conditions message field 237h holds a brief description of the conditions of the service, such as the rate, and is displayed to the end-user; the grace message field 237i, carries a brief message to explain the grace period if any, to the end user; the bandwidth throttling field 237j, contains a code indicating how charges may be modified if network throughput changes; the service loading field 237k contains ***a code indicating whether time is charged when the service is loading*** *(for example with Internet Services); charge period field 237l contains a code indicating a charge period in seconds: The user is charged at the beginning of each period for a debit/credit card. The length of the period is determined from multiplying the charge period field 237l by the rate per minute field 237d. If taxes are applied the resulting amount is multiplied by tax field 237m. The resulting amount is the* ***amount which is charged in each period to smart-card users or which is accumulated for kiosk users who pay by debit/credit card.*** *For example, for some pay-per use services, no charge may be made when pages are loading, only when they have been completely loaded. Optionally, the service rate field may include sub-fields related to rates for printing consumables such as movie tickets, e-mail or receipts, or for storing files on a diskette or on a central server* ***(emphasis added).***

First of all, Fig. 14 of Jansen does not show the sub fields in the service rate field 237, but rather the ed of a telephone program. That aspect excluded, it can be readily understood that Jansen contemplates local charging of the fees incurred by the user either on a smart-card or a debit/credit card in each period.

Therefore, there is no data related to an IP session that is pending transmission to a AAA server in Jansen. Indeed, there is no AAA server (or any other kind of accounting server) mentioned in relation to IP session charging since the charges directly and locally paid by the user. Therefore, Applicant does not agree with the Examiner's evaluation that Jansen involve collecting accounting in a call server and, upon occurrence of an accounting event, sending the collected accounting data to a AAA server. Likewise, it does not suggest how such a mechanism could be used, especially not for avoiding bursty accounting messaging traffic when changing billing rates are involved.

Column 11, lines 1-67 (and related lines of the same paragraphs of columns 10 and 12) of Jansen read as follows:

When data is requested, block 274 directs the microprocessor 82 to read the first communications port 100 to determine whether or not a complete response has been received. It will be appreciated that the data request may require the transfer from the central server to the apparatus of a rather large file which may take some time to receive

If a complete response has been received, blocks 266, 268, 262, 264, 270 and 272 are repeated until a situation exists where a request for data has been sent to the remote service, but a complete response has not yet been received. In this situation, block 276 directs the processor to determine a data receive rate at which data is received by observing the number of blocks of data received each second. The processor thus acts as a data receive rate measurement device.

For certain pay-per-use services ***the amount charged may vary according to the data arrival rate.*** *One of the subfields of service rate field 237 is the bandwidth throttling field 237j. Alternatively this field could be a separate table as shown in FIG. 16. As shown in FIG. 16 the bandwidth throttling field may have a number of subfields such as the service ID/1601, the data arrival rate field 1603 and the charge modifier field 1605. As shown in FIG. 12 in block 276 the data arrival rate is calculate over each x second period. If the data arrival rate is less than some amount, for example 500 bytes/s then the usage timer is incremented by x seconds times 0 which equals zero.* ***Different data arrival rates are used to modify the amount the usage timer is incremented.*** *For*

example, if the data is 1000 bytes/s or greater, then the usage timer is incremented by X seconds times 1.0 or x seconds. As shown in FIG. 12, after the data arrival rate is calculated, then the data arrival rate is compared to those rates listed in column 1603 (in the bandwidth throttling field) in block 276a. Following this comparison a charge modifier from column 1605 is calculated in block 276b. A charge increment is calculated using (1) other service rate information from service rate field 237 as well as (2) information from the usage timer and (3) the charge-calculated modifier (block 276c). This charge increment is added to the cumulative amount charged in block 276d. Optionally, when the charge modifier is less than 100% a message is displayed to the kiosk user to notify him or her that due to slow data arrival, charges are being reduced.

Card Clearing Task

FIG. 13

Referring to FIG. 13, the card clearing task begins with block 360 which directs the processor to actuate the card reader to identify the type of card. Block 362 then directs the processor to a lookup table which is addressed to determine whether or not the card inserted is supported by the apparatus. If the card is not supported, block 364 directs the processor to reject the card. If the card is supported, however, block 366 directs the processor ***to perform a card format and valid data test on the data read from the card.*** *If the card format is not valid, block 368 directs the processor to reject the card.*

If the card information is valid, block 370 directs the processor to send the card data to the central server 26 or to another authorization server by way of a message sent through the request and reply pipe 68 shown in FIG. 3 to the transaction server interface 50.

It should be noted that validation of certain types of cards, such as stored value smart cards may occur entirely at the kiosk.

Referring back to FIG. 3, ***the transaction server then looks up local card clearing files stored in the database 62 to determine whether or not the card should be rejected and if, based on these files, the card should be rejected,*** *a reply message to this*

effect is sent back to the apparatus where block 374 directs the processor to reject the card. If the server determines that the card should not be rejected, a message to this effect is sent back to the apparatus. ***(emphasis added)***

Jansen calculates a data arrival rate in order to adjust charging during the course of a given session. Jansen further uses an authenticating server to validate a card inserted at the kiosk. Depending on the outcome of the validation at the server, a message is sent to the kiosk so that the user is allowed or disallowed access to the terminal for the session.

As can be appreciated, Jansen does not send an accounting message to a AAA server or any other kind of accounting server in order to charge the user for a portion of an IP session. Therefore, the Applicant submits that Jansen does teach how to, upon detection that the call server comprises collected accounting data pending transmission to the AAA server, send from the call server to the AAA server an Accounting Stop message comprising the collected accounting data and sending from the call server to the AAA server an Accounting Start message indicative of a start of a second portion of the IP session that is to be charged according to the second billing rate.

Rainis relates to an Internet telephony directory server to enable users to chose the most appropriate telephony server to route a telephone call from an IP terminal to a regular phone.

Column 12, line 57 to Column 13, line 25 of Rainis read as follows:

In addition to providing identifying information, the ***user selects a payment means, choosing between digital cash and SET credit cards.*** *As part of this request,* ***the client provides the server with information necessary for appropriate transfer of funds.*** *For electronic cash payments, this information is in the form of appropriate pointers to the user's electronic purse. For SET calls, payment information involves the user's encrypted credit card number.*

As the call proceeds, ***the telephony server requests payment from the user at regular intervals, based on the pre-negotiated rate.*** *In general, requests are made at the rate of 10/minute, with each transaction representing a prepayment for the next six*

seconds. These requests lead to the transfer of digital cash or to the increase of a running credit card bill. Since the server receives payment for six second service increments in advance, the service provider is never providing services without having received proper payment. If payment requests are not properly honored, the telephony server can disconnect the call.

Client software provides the user with a running account of the time and funds spent on the call. Accurate and reliable accounting serves as the basis for generation of bills. *Appropriate accounting from both the client system and the terminating server is collected and tabulated in order to provide a confirmed, reliable description of calls in progress. Billing may be divided into three components: authentication (caller identifies himself to the directory server), conversation accounting (as the conversation proceeds, the client provides the server with continuous updates regarding the progress of the call), and payment (appropriate funds are transferred from the client to the telephony server). Billing is flexible to allow for a variety of payment schemes and relationships between entities.* ***The billing components acts as a go-between, working to assure transfer of funds from customer to service provider, through any mutually acceptable payment mechanism.*** *Conventional paper billing is also available.* ***(emphasis added)***

As can be appreciated, Rainis involves a classic call accounting scheme in which the user is charge at one agreed rate through any mutually acceptable payment method.

Rainis does not involve collecting accounting in a call server and waiting upon occurrence of an accounting event before sending the collected accounting data to a AAA server. Especially, Rainis does not teach how to send from the call server to the AAA server an Accounting Stop message comprising the collected accounting data and sending from the call server to the AAA server an Accounting Start message indicative of a start of a second portion of the IP session that is to be charged according to the second billing rate only after detection that the call server comprises collected accounting data pending transmission to the AAA server.

As mentioned earlier, the problem as stated in the pending application was, at the time of filing, unsolved and of interest for the telecommunications industry. Neither

Jansen, Rainis nor any combination thereof could potentially provide a solution thereto. Concerning the alleged fact that sending from the call server to the AAA an Accounting Stop message comprising the accounting data and sending from the call server to the AAA server an Accounting Start message indicative of a start of a second portion of the IP session that is to be charged according to a second billing rate does not solve any stated problem in a new or unexpected way and is not for particular purpose which is unobvious to one of ordinary skill, the Examiner is referred back to paragraph 0010 of the description:

The prior art method shown in Fig. 2 comprises a major disadvantage in that, immediately after the TimeOfDay Timer expires, action 200, the prior art PDSN 10 transmits the Accounting Stop message 202 and the Accounting Start message 204 in order to inform the AAA server of the end a the prior billing rate period and of the beginning of the new billing rate period. Thus, ***when the timer expires in action 200, at least messages 202 and 204 must be transmitted substantially simultaneously for all active IP sessions within the cellular telecommunications network, since the billing rate changes at that given time for all cellular subscribers of the network 12.*** *It can be easily observed that even in the case of a medium-size cellular communications network comprising only several million subscribers, and assuming that merely a small fraction (e.g. 3%-5%) of all subscribers are caring IP communications at that given time (e.g. 6:00PM), the sequence of messages 204 and 208 must be performed at the same time for tens of thousands of subscribers.* ***The sudden increase in the accounting messaging traffic between the PDSN 10 and the AAA server 14 at this given time creates a load that can exceed the capacity of the communication link between the PDSN and the AAA server. Traffic congestion problems can result in the loss of accounting data by the AAA server, which can lead to a loss of revenue for the network operator. (emphasis added)***

Applicant submits that sending from the call server to the AAA an Accounting Stop message comprising the accounting data and sending from the call server to the AAA server an Accounting Start message indicative of a start of a second portion of the

IP session that is to be charged according to a second billing rate only after detection that the call server comprises collected accounting data pending transmission to the AAA server solves the stated problem in a new and unexpected way and is for particular purpose which is unobvious to one of ordinary skill.

Therefore, withdrawal of the rejection of independent claims 1, 8 and 15 and all pending dependent claims 4-7, 9, 11-14 and 16-19 since their patentability depend ultimately from their respective independent claims.

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CONCLUSION

In view of the foregoing, Applicant submits that the application is now in condition for favourable action.

Should the Examiner wish to discuss the present amendment or present patent application, he is invited to contact the undersigned at (514) 345-7891.

Respectfully submitted

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